

CLAIMS

1. A platen for use in product encapsulation and like processes wherein said platen is configured to be gaseously evacuated, said platen comprising:  
a base plate;  
at least one gas evacuation conduit configured to communicate through said base plate;  
a support plate spaced apart from said base plate to create a plenum chamber between said base plate and said support plate, each gas evacuation conduit in communication with said plenum chamber;  
a first array of channels formed in a surface of said support plate remote from said plenum chamber wherein a plurality of mesas are defined in those areas of said support plate surface intermediate said channels; and  
a plurality of apertures located in said channels and each passing through said support plate, said apertures extending between said support plate and said plenum chamber.
2. A platen according to claim 1 wherein predetermined channels intersect with one another and said apertures are located at the intersections of said channels.
3. A platen according to claim 1 or 2 wherein said mesas have a second array of grooves formed in said support plate surface and leading into said channels.
4. A platen according to claim 3 wherein predetermined grooves intersect one with another.
5. A platen according to claim 4 wherein said second array is substantially rectangular, hexagonal, octagonal or otherwise substantially polygonal.
6. A platen according to any one of claims 1 to 5 wherein said first array is substantially rectangular, hexagonal, octagonal or otherwise substantially polygonal.
7. A platen according to any one of claims 1 to 6 wherein the periphery of said support plate and the periphery of said base plate are configured to sealingly interengage.
8. A platen according to any one of claims 1 to 7 wherein the surface of said support plate remote from said plenum chamber includes a plurality of substantially parallel scratches.
9. A platen according to claim 8 wherein said scratches are formed by sandpaper, emery board or other abrasive.
10. A platen according to any one of claims 1 to 9 wherein said support plate is spaced from said base plate by a plurality of spaced apart spacers.
11. A platen according to claim 10 wherein each said spacer is substantially cylindrical with its longitudinal axis extending substantially normal to said support plate.
12. A platen according to any one of claims 1 to 11 wherein a fine mesh is supported by said mesas.

13. A platen according to claim 12 wherein a perforated sheet is supported by said fine mesh.
14. A platen according to any one of claims 1 to 13 wherein upper and lower ends of each said aperture are tapered, radiussed or chamfered such that each aperture provides a venturi effect as gas passes therethrough.
15. A platen according to any one of claims 1 to 14 further comprising a blocking plate having an edge seal disposed around its periphery, the blocking plate configured to block a predetermined number of said first array of channels and a predetermined number of said plurality of apertures to prohibit gaseous communication therethrough to said plenum chamber.
16. A method of providing a platen for use in product encapsulation and like processes wherein said platen is configured to be gaseously evacuated, said method comprising the steps of:
  - providing a base plate;
  - disposing at least one gas evacuation conduit through said base plate;
  - disposing a support plate adjacent said base plate to create a plenum chamber between said base plate and said support plate, said plenum chamber being in fluid communication with each gas evacuation conduit;
  - disposing a first array of channels in a surface of said support plate remote from said plenum chamber wherein those areas of said support plate surface intermediate said channels provide a plurality of mesas; and
  - disposing a plurality of spaced apart apertures through said support plate, said channels and said plenum chamber in fluid communication via said apertures.
17. A method according to claim 16 wherein predetermined channels intersect with one another and said apertures are located at intersections of said channels.
18. A method according to claim 16 or 17 comprising the step of disposing a second array of grooves in said support plate surface, said second array of grooves leading into said channels.
19. A method according to claim 18 wherein predetermined grooves intersect one with another.
20. A method according to claim 19 wherein said second array is substantially rectangular, hexagonal, octagonal or otherwise substantially polygonal.
21. A method according to any one of claims 16 to 20 wherein said first array is substantially rectangular, hexagonal, octagonal or otherwise substantially polygonal.

22. A method according to any one of claims 16 to 21 comprising the step of sealingly interengaging the periphery of said support plate and the periphery of said base plate, the volume within said sealed periphery defining said plenum chamber.
23. A method according to any one of claims 16 to 22 further comprising the step of disposing a plurality of substantially parallel scratches on the surface of the support plate remote from the plenum chamber.
24. A method according to claim 23 wherein the scratches are made by sandpaper, emery board or other abrasive.
25. A method according to any one of claims 16 to 24 comprising the step of disposing a plurality of spacers in a spaced apart arrangement intermediate said support plate and said base plate.
26. A method according to claim 25 wherein each said spacer is substantially cylindrical and is disposed with its longitudinal axis extending substantially normal to said support plate.
27. A method according to any one of claims 16 to 26 comprising the step of disposing a mesh over said mesas to be supported thereby.
28. A method according to claim 27 comprising the step of disposing a perforated sheet over said mesh to be supported thereby.
29. A method according to any one of claims 16 to 28 comprising the step of tapering, radiussing or chamfering upper and lower ends of each said aperture such that each aperture provides a venturi effect as gas passes therethrough.
30. A method according to any one of claims 16 to 29 comprising the step of disposing a blocking plate on said platen and over a predetermined number of said first array of channels and a predetermined number of said plurality of apertures to prohibit gaseous communication therethrough to said plenum chamber wherein said blocking plate has an edge seal disposed around its periphery.